Washington Territory .- Walla Walla, 11th; Neah Bay, 16th, 17th, 30th; Pleasant Grove, 16th, 18th.

Wisconsin.—La Crosse, 4th; Milwaukee, 8th, 9th; Madison, 27th, 28th.

Wyoming.—Fort Bridger, 21st.

PRECIPITATION FROM A CLOUDLESS SKY.

Cincinnati, Ohio: fine snow fell from a cloudless sky from 10.21 to 10.42 p. m. of the 6th.

## TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for December, 1885.

Station.	Temperature at bottom.		Range.	Average depth, feet and	Mean tempera- ture of the
	Max.	Min.		tenths.	air at station.
	-	0	ა		
Atlantic City, New Jersey	45.6	38.2	7.4	13.0	36.9
Alpena, Michigan*		30.5	3.5	12.7	24.3
Augusta, Georgia	52.5	42.9	9.6	10.1	45.0
Baltimore, Maryland	45.3	36.3	9.0	9,6	37.6
Block Island, Rhode Island	46.4	35.5	10.9	8,6	30.7
Boston, Massachusetts*	39.4	31.8	7.6	20.7	32.8
Buffalo, New York	37.0	31.0	6.0	11.5	30.0
Canby, Fort, Washington Territory	50.8	44.6	15.8	28.8	46.7
Cedar Keys, Florida	60.0	47.8	12.2	7.8	52.8
Charleston, South Carolina	54.8	47.I	77	39.6	50.4
Chicago, Illinois †	34.1	32.3	7.7	8.3	31.1
Chincoteague, Virginia		33.0	12.6	3.3	40.4
Cleveland, Ohio*		32.2	6,6	14.0	31.5
Detroit, Michigan *		34.6	3.8	24.8	32.9
Duluth, Minnesota		34.1	4.7	10.2	19.2
Eastport, Maine		39.4	6.6	16.5	27.8
Escanaba, Michigan*	38.6	33.7	4.9	17.8	22.8
Galveston, Texas		47.3	14.7	12.6	57.6
Grand Haven, Michigan		32.0	5.1	19.0	28.5
Indianola, Texas		48.5	15.3	7.9	58.5
Jacksonville, Florida	59.0	52.5	6.5	18.0	53.3
Key West, Florida		60,1	15.9	17.8	64.7
Mackinaw City, Michigan		32.0	7.4	0.01	27.1
Macon, Fort, North Carolina	57.0	43.5	13.5	[2.2	47.0
Marquette, Michigan*		32.4	6.1	12.7	23.4
Milwaukee, Wisconsin *		34.6	4.8	8.0	20.3
Mobile, Alabama		46.6	8.4	15.8	
New Haven, Connecticut		30.7	9.3	15.2	49.5 33.8
New London, Connecticut					
New York City		33.5	10.5	17.3	36.0
Norfolk, Virginia		40.9	5.8	76,6	43.2
Pensacola, Florida	62.6	49.4	13.2	17.2	50.5
Portland, Maine		36.7	4.2	17.4	27.2
Portland, Oregon		41.6	7.1	51.4	43.0
Sanducky, Ohio		33.2	3.8	11.0	31.6
Sandy Hook, New Jersey		38.8	6.5	2.1	37.0
San Francisco, California		54.0	2.7	38.5	53.5
Savannah, Georgia		42.7	9.4	10.3	51.1
Smithville, North Carolina		46.5	8.4	10.7	46.
Toledo, Ohio*	36.1	32.3	3.8	12.8	30.2
Wilmington, North Carolina					
<u> </u>	ı	1	1		

<sup>\*</sup> Observations interrupted by ice; see text. †Instrument broken from 1st to 23d.

Observations were interrupted by ice during the month, as follows: Alpena, Michigan, from 6th to 21st; Boston, Massachusetts, from 7th to 31st; Cleveland, Ohio, on 3d, 5th, 7th, 8th, from 12th to 17th, on 19th and 20th; Detroit, Michigan, from 8th to 29th; Escanaba, Michigan, from 8th to 31st; Grand Haven, Michigan, on 7th and 8th. Marquette, Michigan, on 7th, 8th, and from 14th to 17th; Milwaukee, Wisconsin, from 6th to 31st; Toledo, Ohio, from 7th to 23d, and from 26th to 31st.

### WINDS.

The most frequent directions of the wind during December, 1885, are shown on chart ii by the arrows flying with the wind; they are also given in the tables of miscellaneous data. In the Lake region, Ohio Valley, and Tennessee, and in the districts on the Atlantic coast, the prevailing winds were generally from northwest to southwest; in the Missouri Valley they were northwesterly; in the Gulf States, Rocky Mountain regions, and on the Pacific coast they were variable.

## HIGH WINDS.

# [In miles per hour.]

Wind-velocities of fifty or more miles per hour were reported during the month, as follows:

Mount Washington, New Hampshire, 80, nw., 3d; 74, nw., 4th; 76, nw., 5th; 90, w., 6th; 79, w., 7th; 76, nw., 8th; 96, sw., 9th; 84, w., 10th; 93, nw., 11th; 80, nw., 12th; 92, se., 13th; 80, nw., 14th; 90, nw., 15th; 50, sw., 18th; 88, nw., 20th; 70, nw., 21st; 65, w., 22d; 85, nw., 23d; 80, n., 24th; 56, n., 25th; 73, 23d; 80, n., 24th; 56, n., 26th; 75, 28d; 80, n., 26th; 75, 28d; 80, n., 26th; 76, n., 26th; 78, 28d; 80, 28d; 25th; 74, ne., 26th; 68, ne., 27th; 73, nw., 28th; 96, nw., 29th; 50, nw., 30th; 61, se., 31st.

Pike's Peak, Colorado, 88, nw., 3d; 69, nw., 4th; 56, nw., 5th; 78, nw., 6th; 76, w., 7th; 54, nw., 11th; 52, nw., 12th; 64, sw., 15th; 84, w., 16th; 76, nw., 17th; 90, w., 22d; 56, sw., 25th; 60, sw., 26th; 60, w., 27th.

New York City, 50, w., 8th.

Grand Haven, Michigan, 50, nw., 18th.

Barnegat City, New Jersey, 52, nw., 7th; 52, ne., 26th.

Sandy Hook, New Jersey, 55, nw., 5th; 54, nw., 7th; 51, n., 26th; 52, n., 27th.

Fort Buford, Dakota, 60, w., 3d; 55, w., 4th.

Poplar River, Montana, 56, nw., 3d. Fort Shaw, Montana, 56, w., 3d.

Fort Benton, Montana, 57, sw., 3d. Kitty Hawk, North Carolina, 56, n., 25th; 65, ne., 26th. Fort Macon, North Carolina, 52, sw., 5th; 52, n., 26th.

Palestine, Texas, 52, nw., 4th.

Cape Henry, Virginia, 50, n., 15th; 53, n., 26th. Chincoteague, Virginia, 54, n., 26th.

Omaha, Nebraska, 50, nw., 4th, Cheyenne, Wyoming, 52, nw., 22d. Block Island, Rhode Island, 60, ne., 26th.

Saint Louis, Missouri, 60, nw., 4th.

Moorhead, Minnesota, 50, s., 26th.

Sandusky, Ohio, 56, nw., 5th. Fort Sill, Indian Territory, 53, n., 4th.

Fort Elliott, Texas, 64, nw., 4th.

Tatoosh Island, Washington Territory, 51, w., 30th.

Cape Mendocino, California, 62, se., 15th; 76, se., 20th; 84, se., 21st; 84, se., 22d; 100, se., 23d; 104, se., 24th; 84, se., 25th.

### LOCAL STORMS AND TORNADOES.

Little Rock, Arkansas: a tornado, of limited extent, occurred two and a half miles west of this place on the afternoon of the 8th, moving from southwest towards the northeast, causing but slight damage.

The following is from the "La Crosse (Wisconsin) Daily Republican," of December 17, 1885:

PANAMA, December 17.—Colon has been visited by a severe cyclone, which has done considerable damage. It commenced on the 2d instant, about 2 p. m., and the next day lulled, but commenced again with terrible severity. All m., and the next day inned, but commenced again with terrible severity. All the steamers in port put out to sea for safety, returned, and had to put out again. The damage to property has been very heavy, and the loss of life most serious. The following vessels were sunk with their crews: "Hoklen," "Karnan," "Blanche," "Oataton," "Atwood," "Ariel," "Veteran," "Ocean," "Lynton," "Avelina," "Stella," "Catatina," "Figri," "Douglas," and two others whose names could not be ascertained.

las," and two others whose names could not be ascertained.

The rain poured down in torrents, and a terrible gale of wind set in from the northeast. The "Royal Mail's" new freight office was destroyed by the storm. Wharf number four, belonging to the Panama railroad, was almost demolished, the rails having been torn up and the earthworks destroyed by the force of the tornado.

## NAVIGATION.

#### STAGE OF WATER IN RIVERS.

The Mississippi River froze at Saint Paul, Minnesota, on the 6th and at La Crosse, Wisconsin, on the 7th; at Dubuque, Iowa, it was frozen from the 8th to 31st; Davenport, Iowa, 8th to 26th, and Keokuk, Iowa, 13th to 22d. At Saint Louis, Missouri, the river fell to 2.1 feet on the 16th and 17th, being the lowest stage of water at that place in the record of the Signal Service.

The Missouri River froze at Fort Buford and Yankton, Dakota, on the 9th; Bismarck and Fort Yates, Dakota, on the 6th, and at Fort Sully, Dakota on the 8th; at Omaha, Nebraska, it was frozen from the 10th to 28th, and at Leavenworth, Kansas, from the 12th to 15th, and 17th to 21st.

In the following table are shown the danger-points at the